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EXAMINER	
KIM, EUNHEE	

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2123	

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No. .

10/616,140

Applicant(s)

TURK ET AL.

Examiner

Eunhee Kim

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-32 is/are rejected.
- 7) ☒ Claim(s) 21, 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/05/2007 has been entered.

2. Claims 21-32 are presented for examination.

### ***Claim Objections***

3. Claim 21 and 25 are objected to because of the following informalities:

As per claim 21, the phrase "so built" in line 26 would be better as "as built".

As per claim 25, it recites the limitation "whereby a simulation model identified among the models in the groups may be selected" in lines 4-5. It is unclear what the limitation refers. Since a simulation model is not a model that must be selected, any arts that do not state "must not be selected" read on the claim limitation.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 21-23, 25-27, and 29-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Faruque et al. (U.S. Pub. No 2003/0149500).

As per claim 21, Faruque et al. discloses a system integrating white body information from disparate sources involved in the development of a mechanical assembly (Abstract, Fig. 1, Paragraph [0027]) comprising:

disparate sources of white body information distributed among design, assembly and simulation testing members of an enterprise task group associated with a the development of a mechanical assembly (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]);

a plurality of work stations associated with each of the disparate sources of information distributed among the design, assembly and simulation testing members of the task group (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]);

data files and program functions stored in a retrievable format assembled in one or more lists associated with 1 ) defining a model of a mechanical assembly to be simulated (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]);

2) specifying parts of the mechanical assembly, characteristics of the parts, connections capable of use with the parts, and characteristics of the connections (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]); and

3) compiling the parts, connections and characteristics in a simulation model (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

the data files and program functions being accessible by a task group member from a work station (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

a network linking the work stations (Fig. 1, [0027]);

one or more menu accessible at a workstation associated with the lists (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]) for

1) selecting a plurality of parts to be conjoined in a simulation model from the parts in the list (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

2) retrieving the data files associated with the parts selected (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

3) associating the selected parts and the characteristics of the parts retrieved (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

4) selecting a connection (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

5) retrieving the data files from the library associated with the connection selected (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

6) associating the characteristics of the connection selected with selected parts in a simulation model wherein the selected parts are to be conjoined by the selected connection (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043]);

- 7) processing the selected parts through a mesh process (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0038], and [0041]-[0043] );
- 8) saving the assembly mesh data in a database (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);
- 9) building the simulation model by associating mesh data with connection data (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);
- 10) translating the assembly so built into a virtual simulation format data record (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);
- 11) performing a virtual simulation of the mechanical assembly (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);
- 12) recording a data record of the characteristics of the simulation model in the virtual simulation (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]); and
- 13) recording the data record of the simulation model and the characteristics of the simulation model determined upon the performance of a virtual simulation as an item associated with a list such that the data record of the simulation model and the characteristics of the virtual simulation of the model become available for selection and retrieval from a list as a discrete data file records of mesh, assembly, and evaluation characteristics of the simulation model

accessible at the work stations (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]).

As per claim 22, Faruque et al. discloses a continually updated data loop interconnected with a central library whereby a data file record of the characteristics of the simulation model and the virtual simulation performed upon the simulation model are maintained such that the data file record of the simulation model and the characteristics of the virtual simulation supplant any previous data file record associated with the simulation model and the characteristics of the virtual simulation (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043], [0052]).

As per claim 23, Faruque et al. discloses wherein the data file record of the simulation model includes data concerning crash impact, durability and noise characteristics of the simulation model retrievable at the work stations of the members of the task group associated in an enterprise development of a mechanical assembly (Fig. 1-4E, Paragraph [0021], [0025], [0033]).

As per claim 25, Faruque et al. discloses a menu associated with the work stations includes a program function associated with a mesh part database for identifying simulation models in the groups of existing models and probable developments whereby a simulation model identified among the models in the groups may be selected (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]).

As per claim 26, Faruque et al. discloses wherein a work station includes a limited menu restricting access of the work station to one or more combined functions selected from the group of (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]):

1) selecting a plurality of parts and retrieving the data files associated with the parts selected (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

2) associating with the mechanical assembly the selected parts and the characteristics of the parts retrieved (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

3) selecting a connection and retrieving the data files from the library associated with the connection (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

4) associating the characteristics of the connection selected with selected parts in a simulation model in which the selected parts are to be conjoined and processing the associated connections and parts through a mesh process (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

5) saving the mesh process data in a database, building the mechanical assembly and translating the assembly into a virtual simulation format data record (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

6) performing a virtual simulation of the simulation model, recording a data record of the characteristics of the simulation; and compiling the data record of the simulation model and the characteristics of the virtual simulation in a format retrievable from a list (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]).



As per claim 27, Faruque et al. discloses wherein the lists are maintained In a central master file database that includes parts data records associated with CAD data, mesh data, connection data, assembly data, stock data, and evaluation data (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]).

As per claim 29, Faruque et al. discloses a continuous loop data management system for designing, assembling and simulating a mechanical model in a virtual format from the beginning of a design process to the end of a design process for a designated mechanical assembly (Abstract, Fig. 1-4, the description, [0052]) comprising:

a library maintained in a central master file database that includes parts data records. CAD data, mesh data, connection data, assembly data, stock data, and evaluation data (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

a plurality of work stations interconnected with the library in a network wherein the work stations are singly identifiable with task group members separately involved in functions related to the design, assembly and simulation testing of the designated mechanical assembly (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

a limited menu at each work station restricting a member's access to a work station to one or more functions selected from the groups of design, assembly and simulation, the functions (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]) comprising: 1) selecting a plurality of parts and retrieving the data files associated with the selected parts from the library (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

2) associating the selected parts and the characteristics of the parts retrieved with the mechanical assembly (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

3) selecting a connection from the library and retrieving the data files from the library associated with the connection (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

4) associating the characteristics of the connection selected with the selected parts that are to be conjoined in a model and processing the associated connection and parts through a mesh process to provide an assembly mesh (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

5) saving data associated with the assembly mesh in a database, building the model and translating the model into a virtual simulation format data record (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]);

6) performing a virtual simulation of the model, recording a data record of the characteristics of the simulation and returning the data record of the model and the characteristics of the virtual simulation of the model to the library (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043], [0052]);

whereby upon the return of a data file record of the characteristics of the model processed in accordance with one or more of the selected functions, the data file record of the model as processed supplants any previous data file record in the library associated with the model corresponding to the designated mechanical assembly (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043], [0052]).

As per claim 30, Faruque et al. discloses wherein after a simulation of the model approved by one or more member of the task group, the design and assembly characteristics of the model are fixed as a final design of the designated mechanical assembly in the library (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]).

As per claim 31, Faruque et al. discloses wherein, in the process of building the assembly by associating mesh data with connection data relating to the manner in which conjoined parts are welded in the assembly, imperfections in the mesh are identified and fixed (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]).

As per claim 32, Faruque et al. discloses wherein, in the process of building the assembly by associating mesh data with connection data relating to the manner in which conjoined parts are welded in the assembly, imperfections in the mesh are identified and fixed (Fig. 1-4, Paragraph [0012], [0020]-[0027], [0029]-[0039], and [0041]-[0043]).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faruque et al. (U.S. Pub. No 2003/0149500).

Faruque et al. teaches most all of the instant invention as applied to claims 21-23, 25-27, and 29-32 above.

Faruque et al. teaches selectable data files in the list relating to connections include welds, bonds, bolts, and pin joints ([0043]).

However, Faruque et al. fails to explicitly teach sealers, adhesives, and ball joints.

It was known at the time the invention was made that various types of connecting means include sealers, adhesives, and ball joints for system of interactively assembling a model. At the time the invention was made, it would have been obvious to one of ordinary skill in the art of technology of modeling and virtual evaluation system for mechanical assemblies to various types of connecting means including sealers, adhesives, and ball joints. The motivation would have been to ensure the quality and consistency of the assembled mesh model, which results in improved the analysis (Paragraph [0035]).

Therefore it would have been obvious to modify Faruque et al. to obtain the invention as specified in claim 24.

10. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faruque et al. (U.S. Pub. No 2003/0149500), in view of Hazama et al. (U.S. Patent No. 6,212,441).

Faruque et al. teaches most all of the instant invention as applied to claims 21-23, 25-27, and 29-32 above.

Faruque et al. teaches the work stations associated in the network (Fig. 1).

Faruque et al. fails to teach singly identifiable with task group members separately involved in design, assembly and simulation testing of a designated simulation model.

Hazama et al. teaches singly identifiable with task group members separately involved in design, assembly and simulation testing of a designated simulation model (Fig. 1).

Faruque et al. and Hazama et al. are analogous art because they are both related to a method of a design system.

Therefore, it would have been obvious to one of ordinary skill in the art of at the time the invention was made to include work stations of Hazama et al., in the method of interactively assembling a model of Faruque et al. as modified by Heile et al. because the assembly workstation is a well known process for a ordinary skilled artisan in a method of interactively assembling a model. Hazama et al. teaches an advantageous system that provides central stored the design and the job so they can be easily accessed and retrieved from any area in the factory (Col. 4 lines 9-35).

### **Response to Arguments**

11. Applicant's arguments filed 07/05/2007 have been fully considered but they are not persuasive.

Applicant's arguments with respect to Claim 21-32 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., streamlines data flow with regard to disparate groups having different responsibilities in an enterprise endeavor) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

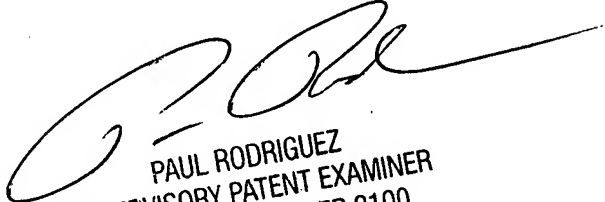
*Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunhee Kim whose telephone number is 571-272-2164. The examiner can normally be reached on 8:30am-5:00pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EK

  
PAUL RODRIGUEZ  
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